

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of :
Shu KOBAYASHI : **Mail Stop: PCT**
Serial No. 10/587,078 : Attorney Docket No. 2006_1191A
Filed July 21, 2006 :

METHOD OF ENANTIOSELECTIVE
NUCLEOPHILIC ADDITION REACTION OF
ENAMIDE TO CARBONYL GROUP AND
SYNTHESIS METHOD OF OPTICALLY
ACTIVE α -HYDROXY- γ -KETO ACID
ESTER AND HYDROXYDIKETONE
[Corresponding to PCT/JP2005/001281
Filed January 24, 2005]

THE COMMISSIONER IS AUTHORIZED
TO CHARGE ANY DEFICIENCY IN THE
FEE FOR THIS PAPER TO DEPOSIT
ACCOUNT NO. 23-0975.

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to the provisions of 37 CFR 1.56, 1.97 and 1.98, Applicant requests consideration of the references listed on attached form PTO-1449 and any additional information identified below in paragraph 3. A legible copy of each reference listed on the Form PTO-1449 is enclosed.

1a. ☒ This Information Disclosure Statement is submitted:

within three months of the filing date (or of entry into the National Stage) of the above-entitled application, or

before the mailing of a first Office Action on the merits or the mailing of a first Office Action after the filing of an RCE,

and thus no certification and/or fee is required.

1b. ☐ This Information Disclosure Statement is submitted

after the events of above paragraph 1a and prior to the mailing date of a final Office Action or a Notice of Allowance or an action which otherwise closes prosecution in the application, and thus:

(1) ☐ the certification of paragraph 2 below is provided, **or**

(2) ☐ the fee of \$180.00 specified in 37 CFR 1.17(p) is enclosed.

1c. ☐ This Information Disclosure Statement is submitted:

after the mailing date of a final Office Action or Notice of Allowance or action which otherwise closes prosecution in the application, and prior to payment of the issue fee, and thus:

the certification of paragraph 2 below is provided, and

the fee of \$180.00 specified in 37 CFR 1.17(p) is enclosed.

2. It is hereby certified

a. ☐ that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the Statement, or

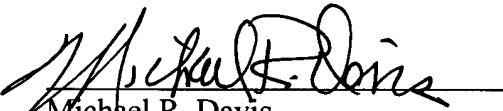
b. ☐ that no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the certification after making reasonable inquiry, was known to any individual designated in §1.56(c) more than three months prior to the filing of the Statement.

3. ☐ Consideration of the following list of additional information (including any copending or abandoned U.S. application, prior uses and/or sales, etc.) is requested.

4. For each non-English language reference listed on the attached form PTO-1449, reference is made to:
- a. ☒ a full or partial English language translation submitted herewith,
 - b. ☒ a foreign patent office search report (International Search Report) (in the English language) of record,
 - c. ☐ the concise explanation contained in the specification of the present application at page,
 - d. ☒ the concise explanation set forth in the attached English language abstract,
 - e. ☐ the concise explanation set forth below or on a separate sheet attached to the reference:
5. ☒ A foreign patent office search report (International Search Report) citing one or more of the references is of record.

Respectfully submitted,

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October 20, 2006

INFORMATION DISCLOSURE STATEMENT

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: October 20, 2006

ATTY DOCKET NO.
2006_1191ASERIAL NO.
10/587,078APPLICANT
Shu KOBAYASHIFILING DATE
July 21, 2006

GROUP

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
	AC						
	AD						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
	AE	2003-260366	9/2003	Japan				
	AF	2003-260363	9/2003	Japan				
	AG							

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

	AH	Ryosuke Matsubara et al., "Copper(II)-Catalyzed Highly Enantioselective Addition of Enamides to Imines: The Use of Enamides as Nucleophiles in Asymmetric Catalysis", Angew. Chem. Int. Ed., 43, pages 1679-1681, 2004.
	AI	Yoshitaka Nakamura et al. "Catalytic, Asymmetric Mannich-Type Reactions of α -Imino Esters Bearing Readily Removable Substituents on Nitrogen", Organic Letters, Vol. 5, No. 14, pages 2481-2484, 2003.
	AJ	Shū Kobayashi et al., "Catalytic, Asymmetric Mannich-Type Reactions of <i>N</i> -Acylimino Esters for Direct Formation of <i>N</i> -Acyated Amino Acid Derivatives. Efficient Synthesis of a Novel Inhibitor of Ceramide Trafficking, HPA-12" Organic Letters, Vol. 4, No. 1, pages 143-145, 2002.
	AK	Shū Kobayashi et al., "Catalytic Asymmetric Synthesis of α -Amino Phosphonates Using Enantioselective Carbon Carbon Bond-Forming Reactions", J. Am. Chem. Soc., 126, pages 6558-6559, 2004.
	AL	Ryosuke Matsubara et al., "Highly Diastereo- and Enantioselective Reactions of Enecarbamates with Ethyl Glyoxylate to Give Optically Active <i>syn</i> and <i>anti</i> α -Alkyl- β -Hydroxy Imines and Ketones", Angew. Chem. Int. Ed., 43, 3258-3260, 2004.
	AM	Ryosuke Matsubara et al., "Highly diastereo- and enantioselective reactions of enecarbamates with an aldehyde", Tetrahedron, 60, pages 9769-9784, 2004.
	AN	Ryosuke Matsubara et al., "Development of Catalytic Asymmetric Reactions Using Enamides as Nucleophiles", The Chemical Society of Japan, page 1220, March 11, 2004.

EXAMINER

DATE CONSIDERED